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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/942,096	08/28/2001	Nabil A. Abu El Ata	3023.1002-001	6177

21005 7590 07/30/2007

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ART UNIT	PAPER NUMBER
2128	

MAIL DATE	DELIVERY MODE
07/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/942,096	EL ATA, NABIL A. ABU	
	Examiner	Art Unit	
	Akash Saxena	2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 April 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,9-15 and 19-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,9-15 and 19-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/27/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claim(s) 1-5, 9-15, and 19-23 has/have been presented for examination based on amendment filed on 27th April 2007.
2. Claim(s) 1-3, 9, 11, 12, 19, 21, 22 and 23 is/are amended.
3. Claim(s) 1-5, 9-15, and 19-23 are rejected under 35 USC § 112 first and second paragraphs.
4. Claim(s) 1-5, 9-15, and 19-23 remain rejected under 35 USC § 103.
5. The arguments submitted by the applicant have been fully considered. Claims 1-5, 9-15, and 19-23 remain rejected and this action is made FINAL. The examiner's response is as follows.

Claim Rejections - 35 USC § 112¶1st and Response to Arguments

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-5, 9-15, and 19-23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 1 is amended to recite in step (b) constructing a multilayer mathematical model of a proposed information system architecture. There is no support in the specification how such "constructing a multilayer mathematical model of proposed information system architecture" is achieved as

there seems to be no disclosure for constructing a mathematical model. Examiner would request applicant to provide support for the limitation claimed above.

7. Applications 09/127,191 incorporated by reference is seemed to have been used to generate a multilayer mathematical model. However on closer review examiner fails to find support for constructing the multilayer mathematical model of proposed system architecture in this reference. Application 09/606869 also incorporated by reference, does not cure this deficiency.

8. Applicant has argued that:

> Moreover, the Specification describes how such a mathematical model may be constructed. A system architect may utilize computer-aided design tools with a series of graphical user interfaces to construct an initial mathematical model of a system architecture (Specification, page 4, lines 1-5)... The construction may be completed by mapping the business processes to the selected business applications, which determines how performance of the mathematical model may be modeled (Specification, page 4, lines 5-14)..."

Nowhere in the cited specification section there is a description of constructing a *mathematical* model. A model is constructed, but how it is a *multi-layered mathematical* model is not clear.

Specification Pg.4 Lines 1-14 states:

> Embodiments of the automated system and method may be implemented in computer aided design tools utilized by system architects. In brief overview of the present invention, a system architect is provided a series of graphical user interfaces through which to construct an initial model of a system architecture from a business process design. Upon providing the business process design, embodiments of the automated system provide a selectable list of premodeled business applications, which are coupled to a set of default hardware and software component models. The initial model is constructed by simply mapping the available business applications to corresponding business processes defined in the business process design. Thus, the system architect is relieved from defining the supporting hardware and software components. After the initial model is constructed, embodiments of the automated system iterate through sequences of performance modeling, comparison, and architecture modification stages until the modeled metrics satisfy the business requirements of the business process design. Once the business requirements are satisfied, a detailed set of specifications describing the system architecture are derived from the resulting model.

9. Claims 11, 21, 22 and 23 suffer from the same deficiency, disclosed above, as in claim 1.

10. Dependent claims 2-5, 10-15 and 19-20 do not sure this deficiency and rejected based on their dependence on claim 1 and 11 respectively.

Claim Rejections - 35 USC § 112¶2nd

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 1-5, 9-15, and 19-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding Claim 1

Claim 1 discloses, "*producing* a model based information system architecture". It is unclear if the producing is any different than constructing claimed earlier. It is unclear that if what producing the information system architecture is limited to (i.e. metes and bounds of the model are unclear – as best understood by examiner, this is a very complex model encompassing multiple mathematical layers (application, technology and business layers with abstraction)– hence a clear construction detail of the model is necessary for particularly point out and distinctly claiming the multi-layer mathematical model of the information system architecture.

Due to the above reasons the specification is deficient and would not allow one to make or use the claimed invention.

Independent claims present similar limitations and respective dependent claims also do not clear the indefiniteness. Hence claims 2-5, 9-15, and 19-23 are rejected for reasons above.

Regarding Claim 22

Claim 22 amends the following limitation:

> wherein the steps of (i) modeling performance metrics, (ii) comparing the modeled performance metrics and (iii) determining and incorporating modifications are during the multi-layer mathematical model deriving a design of the information system architecture.

Is missing punctuation marks to clearly understand the limitation.

Response to Applicant's Remarks for 35 U.S.C. § 103

12. Claim(s) 1-5, 9-15, and 19-23 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over EUROEXPERT - Best Practices: French Social Security - UNEDIC dated 1992 (EUROEXPERT hereafter), in view of IEEE article – "An Introduction To Six Sigma With Design Example" by Robert White dated 1992 (White hereafter), further in view of US Patent 6532465 issued to Hartley (Hartley hereafter).

Regarding Claim 1

(Argument 1) As per remarks on Pg.16, Applicant has argued the combination of EUROEXPERT and White do not teach or suggest modeling performance matrix of a mathematical model of an information system architecture because it modeling of an information system architecture requires several techniques (e.g. mapping between layers and creating buses etc).

(Response 1) Applicant has ignored the teaching of Hartley in making the argument. EUROEXPERT teaches multilayered model which is elaborated by Hartley. White teaches the testing and improving methodology ("Six Sigma") well known in the field of process and system performance, evaluation and improvement. As for the several techniques required to model and simulate the multi-layered mathematical model of an information system, such techniques are clearly visible in Hartley (Hartley: Fig.4). Hartley is very concerned with performance, abstraction and improvement (Hartley: Col.3 Lines 27-48; Col.7 Lines 25-46) *while using models* (Hartley: teaching business models - Col.2 Lines 55-64, configuration model – Col.16 Lines 34-51, and

data models – Col.5 Lines 12-31, Col.10 Lines 13-21) and therefore it would not be mere suggestion of simulation where so many models are involved to simulate using the models. Applicant's argument regarding establishing a prima facie case of obviousness are considered and are found to be unpersuasive.

(Argument 2) As per remark on Pg.16, second paragraph, Applicant has argued that EUROEXPERT and White do not teach mapping between 3 GATE domain layers.

(Response 2) In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Applicant is reminded that the current rejection is made with EUROEXPERT in combination is White and Hartley.

Hartley clearly teaches mapping the 3 domain layers in his Figure 4 (Hartley: Col 10, Lines 50-55, Lines 64-67) (Hartley: *Figure 4 Mappings components 34, 36 and 38;* Col. 5 Lines 12-32, also see Fig.4; Col.11 Lines 34-45). But it can be seen in Figure 4 that similar mapping existing between the layers below the business layer going down towards domain (application layer) and database (physical database/technological representation layer) (Hartley: Col. 8 Lines 11-16). Applicant's argument regarding establishing a prima facie case of obviousness are considered and are found to be unpersuasive.

(Argument 3) As per remark on Pg.16, third paragraph, Applicant has argued that that amended limitation now read mapping is between the business application

component and does not mean mapping between the different layers in the mathematical model – which Hartley does not teach.

(Response 3) Hartley clear teaches mapping each business process (business objective) to business application component using abstraction (Hartley: at least in Col.11 Lines 27-45, Col.10 Lines 13-21).

(Argument 4) Applicant has argued that Hartley fails to teach "technology bus" and "application bus" as claimed. They represent hardware and software component models. By application own disclosure, "technology bus" in specification on Pg.13 Lines 3-13 is:

> A technology bus layer 440 isolates the technology layer 450 from the application layers 410, 430, avoiding a technology-specific architecture. According to one embodiment, the technology bus layer 440 models an abstract interface (e.g., JavaTM virtual machine) for data access or technology services.

Applicant has acknowledged Hartley teaches a virtual machine – which is what represents a technology layer.

By application own disclosure, "application bus" in specification on Pg.12 Lines 5-18 is:

> An application bus layer 420 facilitates the separation of the business applications and application services layers 410, 430, by providing a number of communication services.... According to one embodiment, the application bus layer 420 models a communication middleware, such as messaging and TCP/IP network communication protocols.

Hartley teaches messaging service having all the details of the protocol (like TCP/IP etc), transport type etc, (Hartley: Col.13 Lines 8-21) which provides communication between different layers (Hartley: Col.7 Lines 24-28). Therefore argument that Hartley does not teach "application bus" either physical or modeled, is found to unpersuasive.

(Argument 5) Applicant has argued In conclusion no combination of EUROEXPERT, White and Hartley teaches or suggests an application bus, technology bus or mapping the business processes to business application components as recited in the claims 1, 11 and 21-23.

(Response 5) Hartley clear teaches mapping each business process (business objective) to business application component using abstraction (Hartley: at least in Col.11 Lines 27-45, Col.10 Lines 13-21). Applicant's argument regarding establishing a prima facie case of obviousness are considered and are found to be unpersuasive.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. Claim(s) 1-5, 9-15, and 19-23 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over EUROEXPERT - Best Practices: French Social Security - UNEDIC dated 1992 (EUROEXPERT hereafter), in view of IEEE article – "An Introduction To Six Sigma With Design Example" by Robert White dated 1992 (White hereafter), further in view of US Patent 6532465 issued to Hartley (Hartley hereafter).

Regarding Claim 1 (Updated 7/13/07)

EUROEXPERT Best Practices document teaches

> ***"A computer implemented method for designing and producing a model based information system architecture, the information system architecture being the architecture of an information system which includes a number of interconnected hardware and software components implementing one or more business solutions, comprising the steps of:***
> ***(a) providing a business process design, the business process design describing a plurality of business processes and defining a set of business requirements for each business process;***
> ***(b) constructing a multi-layer mathematical model of a proposed information system architecture supporting the business process design, the layers of the multi-layer model comprising a business layer, an application layer, and a technology layer, the business layer, application layer and technology layer having different data than each other,"***

as a tiered model GATE model identical to claimed model application that collects measurements from 3 domains, namely, business domain/layer, application domain, technology/system/network domain, illustrated by a figure called "Modeling Business Value Chain" (EUROEXPERT Best Practices: Col 2), representing an **information system** (EUROEXPERT: Fig on Pg.2) where each layer has different data than each other (EUROEXPERT: Fig on Pg.1). This model incorporates the business goals and characteristics of the system design. It can be seen from the reference that this model captures the business requirements for business processes as well as delegates them to 3 layers. The public knew about this model in February 1992

(EUROEXPERT Best Practices: Col 2, Lines 16-18). EUROEXPERT teaches constructing such a system ((EUROEXPERT: Approach Col 2 – Stage 2 completed in May 1992).

EUROEXPERT teaches:

"(c) deriving a design for the proposed information system architecture by:"

as the multi tiered model as in EUROEXPERT: Fig on Pg.1.

Although the EUROEXPERT Best Practices article discloses the results of the 3-tiered business model, EUROEXPERT does not teach specifically modeling the performance matrix of the for each layer, simulating, comparing them to the requirements, acceptability, proposing & modifying the matrix at appropriate layers.

White's article teaches how six-sigma methodology can be used to perfect any process, system or component. This process has its mathematical roots in statistics. The process itself has six steps, namely, identify the required function, specify performance requirements, determine component variation, characterize performance and revise design to meet six-sigma mathematical requirement, repeat previous steps to get higher quality results (White: Pg 32, Col. 2, Design Example). White further teaches,

(c1) modeling performance metrics for each layer of the multi-layer model including continuous service of the proposed information system architecture"

as the components and their variations can be modeled using an electrical circuit example (White: Pg 33, Col. 1, D Step 3, Line 3-8; During construction – Pg. 35 Section H). These components can then be simulated to measure their performance

using various mathematical & statistical calculation, White discloses circuit example with Monte Carlo simulation (White: Pg 33, Col 2, 2nd Paragraph).

White further teaches,

> ***"(c2) comparing the modeled performance metrics with the set of business requirements for each business process, said comparing producing respective indications of unacceptable performance metrics of one or more business processes that do not satisfy the set of business requirements defined for them based on the produced indications;"***

as results of such a simulation are compared against the expected values (White: Pg 34, Col. 1, 1-6 & Figure 4). The figure (White: Figure 4) disclosed shows the unacceptable performance as compared to the expected results.

White further teaches,

> ***"(c3) and determining modifications to proposed information the system architecture, resulting in an information system architecture design, a description of the resulting information system architecture design being output."***

as replacing the instant model and taking other models & values for the sub-components to enhance and meet performance (White: Pg 34, Col. 1, F Step 5, Line 1-8 & Table V). Modifications are suggested after the results from these simulations are gathered – i.e., in the circuit example used components of higher tolerances are suggested (White: Pg 34, Col. 1, F Step 5, Line 15-16). The reference teaches narrower versions of broader claims in the application. Here a simple electric circuit example teaches a abstract methodology that can be applied to much bigger multi-tiered system as claimed. The newly amended limitation adds the outputting the design, which EUROEXPERT teaches as stage 2 implementation of the model (EUROEXPERT: Pg.1, Fig. On Pg.2 New functional Elements).

Neither EUROEXPERT nor White explicitly teaches mapping between the 3 GATE domain layers and presence of application and technology buses in the design.

Hartley teaches the limitation

(a) ... said constructing comprising mapping each business process to a business application component which is modeled by a corresponding business application component model in the business layer, each business application component model linked to one or more component models in the application and technology layers, which support the corresponding application component,

as mapping between the different layers can be present attain a business objective (Hartley: *Figure 4 Mappings components 34, 36 and 38;* Col. 5 Lines 12-32, also see Fig.4; Col.11 Lines 34-45). Hartley exemplifies the mapping between the presentation layer and business later in his Figure 4 (Hartley: Col 10, Lines 50-55, Lines 64-67). But it can be seen in Figure 4 that similar mapping existing between the layers below the business layer going down towards domain (application layer) and database (physical database/technological representation layer) (Hartley: Col. 8 Lines 11-16).

Hartley further teaches the limitation

(b) ... wherein the multilayered mathematical model* comprises a technology bus, *the technology bus serving as an abstract interface for data access or technology services between the components modeled in the application and technology layers, and wherein the constructed multilayered mathematical model further comprises an application bus, the application bus providing a communication, distribution, and management interface between application component models in the application layer and business layer;"

Hartley teaches technology bus as virtual machine (Hartley: at least in Col 10, Lines 24-31) and application bus as message buses (Hartley: at least in Col. 11, Lines 46-48, 63-65) as means for interfacing between different layers (business layer and application layer for example - Hartley: Fig.4 – mapping between layers; Col.1 Lines 41-48 – business application), in broader terms buses are considered to be data conduits between different layers. The replacement of the phrase "proposed

information system architecture" with "multilayered mathematical model" does not add new limitations as step (b) states:

(b) constructing a multi-layer mathematical model of a proposed information system architecture..."

makes the two equivalent.

Hartley discloses various models and algorithms at multiple layers to implement the proposed information system architecture (Hartley: Summary of Invention Col3-6).

It would have been obvious to one (e.g. a designer) of ordinary skill in the art at the time the invention was made to take White's teaching and apply them to EUROEXPERT - Best Practices GATE model disclosed above to create a tool for improving quality in business process design. The motivation to do so would be a system than can be simulated with various components to meet the requirements. Six-sigma process is disclosed as a way of doing business (White: Pg 28, Col. 1, A. What is Six Sigma, Line 6-9) to increase quality & attain competitive pricing (White: Pg 28, Col. 2, B "Why Pursue Six Sigma?" Line 1-6).

It would have been obvious to one (e.g. a designer) of ordinary skill in the art at the time the invention was made to use the layering approach, communication strategy and real-time/batch processing taught by Hartley and apply them to White/EUROEXPERT references. The motivation would be a design, which is abstract enough than can handle new business requirements without significantly changing the underlying architecture, and specific enough that the business layer can provide rule based processing by passing in metadata. Hence, the business

model would be extremely adaptive to changing business, application & technological requirements.

Regarding Claim 2 (Updated 7/13/07)

As disclosed above, White proposes performance matrix modification, update and comparison (White: Pg 34, Col. 1, 1-6 & Figure 4). He discloses the circuit component that gives the best results for the quality/cost level (White: Pg 34, Col. 2, 1-3 & Table V). White further discloses a matrix of components with various tolerances and how they are used to access the performance of the circuit (White: Pg 33, Figure 3 & Pg 34, Table V & VI). The output of his analysis is selection of the component, which is least expensive and highest quality (White: Pg 34, Col. 2, 1-3). Removal of word "constructed" does not alter the rejection and the limitation is teaches the limitation.

Regarding Claim 3 (Updated 7/13/07)

As disclosed above, White identifies, evaluates various components required in the circuit (White: Pg 33, Col. 1, Figure 3). Searching the data store for various components is implicit, as he has already identified the all variations with different tolerances (White: Pg 33, Col. 1, and Table 2). Removal of word "constructed" does not alter the rejection and the limitation is teaches the limitation.

Regarding Claim 4

White suggests that replacement of components be done one at a time to accurately calculate improved performance (White: Pg 34,Col. 1, F Step 5, Line 1-8 & Table V).

Regarding Claim 5

EUROEXPERT & White do not teach modifying the business model if the supporting components models in application and technology layers have unacceptable performance metrics. However, It would have been obvious to one (e.g. a designer) of ordinary skill in the art at the time the invention was made to modify the business model when the supporting components models are not able to meet performance as it is well-known in the art that business model need to be changed when the underlying application or technology is unable to support the business goals.

Regarding Claim 9 (Updated 7/13/07)

Limitations relating to the *multi-layered mathematical model* of the proposed information system architecture are shown in the claim 1 rejection.

Disclosures for EUROEXPERT - Best Practices GATE model and White do not teach real-time and batch processing systems.

Hartley teaches business application layer (Hartley: at least in Col.5 lines 42-58) and an application engines layer (Hartley: at least in Col.3 Lines 52-67). Hartley exemplarily discloses applications design that respond in real time (Hartley: Col. 13, Lines 24-31) and another one, which is, batch process driven. Batch processing example disclosed is collection of customer charges (Hartley: Col. 17 Lines 58-68) & batch report generation (Hartley: Col. 19, Lines 18-23).

Regarding Claim 10

White discloses taking other models and values for the subcomponents to enhance performance and meet performance (White: Pg 34,Col. 1, F Step 5, Line 1-8 & Table V).

Regarding Claim 11 (Updated 7/13/07)

Claim 11 is rejected for the same reasons as *updated* claims 1, 2 & 9 are rejected.

Further Hartley discloses a system that includes a rule-based engine (Hartley: Abstract Lines 12-15). The output module is the claim is equivalent to batch output component that is disclosed in Claim 9.

Specifically, EUROEXPERT teaches the limitation presented in step (a) and most of step (b) as a tiered model GATE model identical to claimed model application that collects measurements from 3 domains, namely, business domain/layer, application domain, technology/system/network domain, illustrated by a figure called "Modeling Business Value Chain" (EUROEXPERT Best Practices: Col 2), *representing an* ***information system*** *(EUROEXPERT: Fig on Pg.2) where each layer has different data than each other (EUROEXPERT: Fig on Pg.1)*. This model incorporates the business goals and characteristics of the system design. It can be seen from the reference that this model captures the business requirements for business processes as well as delegates them to 3 layers. The public knew about this model in February 1992 (EUROEXPERT Best Practices: Col 2, Lines 16-18). EUROEXPERT teaches constructing such a system ((EUROEXPERT: Approach Col 2 – Stage 2 completed in May 1992).

White teaches step (c) as modeling performance of the components and their variations using an electrical circuit example (White: Pg 33, Col. 1, D Step 3, Line 3-8; During construction – Pg. 35 Section H). These components can then be simulated to measure their performance using various mathematical & statistical

calculation, White discloses circuit example with Monte Carlo simulation (White: Pg 33, Col 2, 2nd Paragraph).

White further teaches step (d) as comparing the results of a simulation against the expected values (White: Pg 34, Col. 1, 1-6 & Figure 4). The figure (White: Figure 4) disclosed shows the unacceptable performance as compared to the expected results.

Hartley teaches step (e) as a system that includes a rule-based engine (Hartley: Abstract Lines 12-15; Col.12 Line 62-Col.13 Line 7).

White teaches step (f) as replacing the instant model and taking other models & values for the sub-components to enhance and meet performance (White: Pg 34, Col. 1, F Step 5, Line 1-8 & Table V). Modifications are suggested after the results from these simulations are gathered – i.e., in the circuit example used components of higher tolerances are suggested (White: Pg 34, Col. 1, F Step 5, Line 15-16). The reference teaches narrower versions of broader claims in the application. Here a simple electric circuit example teaches an abstract methodology that can be applied to a much bigger multi-tiered system as claimed. Outputting the design, which EUROEXPERT teaches as stage 2 implementation of the model (EUROEXPERT: Pg.1, Fig. on Pg.2 "New functional Elements").

Harley teaches the remaining step (a) limitations regarding mapping buses (Hartley: Col. 5 Lines 12-32, also see Fig.4; Col.11 Lines 34-45; Col 10, Lines 50-55, Lines 64-67; Col. 8 Lines 11-16) and application & technology buses (Hartley: at least in Col 10, Lines 24-31 at least in Col. 11, Lines 46-48, 63-65).

The motivation to combine White with EUROEXPERT is same as provided in claim 1 rejection. Further, motivation to combine Hartley with EUROEXPERT-White is also provided in claim 1 rejection.

Regarding Claim 12 (Updated 7/13/07)

Claim 12 is rejected for the same reasons as claims 1, 2.

Regarding Claim 13

Claim 13 is rejected for the same reasons as claims 1, 2.

Regarding Claim 14

Claim 14 is rejected for the same reasons as claims 1.

Regarding Claim 15

Claim 15 is rejected for the same reasons as claims 5.

Regarding Claim 19 (Updated 7/13/07)

Claim 19 is rejected for the same reasons as claims 9.

Regarding Claim 20

Claim 20 is rejected for the same reasons as claims 10.

Regarding Claim 21 (Updated 7/13/07)

Claim 21 is rejected for the same reasons as claims 1 & 2.

Regarding Claim 22 (Updated 7/13/07)

Claim 22 is rejected for the same reasons as claim 11. As best understood, the amended limitation

> wherein the steps of (i) modeling performance metrics, (ii) comparing the modeled performance metrics and (iii) determining and incorporating modifications are during the multi-layer mathematical model deriving a design of the information system architecture.

are taught by White and EUROEXPERT together as explained in claim 11.

Regarding Claim 23 (Updated 7/13/07)

Claim 23 is rejected for the same reasons as claims 1. Col.12 Lines 33-51 showing memory storing executable code.

Conclusion

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Akash Saxena whose telephone number is (571) 272-8351. The examiner can normally be reached on 9:30 - 6:00 PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini S. Shah can be reached on (571)272-2279. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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